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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/856,438

05/21/2001

Frank Sjoberg

S1022/8668

8286

23628

7590

10/29/2004

WOLF GREENFIELD & SACKS, PC  
FEDERAL RESERVE PLAZA  
600 ATLANTIC AVENUE  
BOSTON, MA 02210-2211

EXAMINER

MUNOZ, GUILLERMO

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/856,438

Applicant(s)

SJOBERG ET AL.

Examiner

Guillermo Munoz

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 16-23 is/are rejected.
- 7) ☒ Claim(s) 12-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

Claims 8, 15, and 23 are objected to because of the following informalities:

Claim 8 is objected to because the claim does not include a period for punctuation at the end of the sentence. Additionally, the typographical error " $E_k - PSD_{\max}$ " should be changed to  $E_k = PSD_{\max}$ .

Regarding claim 15, see claim 8.

Regarding claim 23, see claim 8.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 and 18-23 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the term "relatively short wires" in claim 1, line 4 is a relative term which renders the claim indefinite. The term "relatively short wires" is not defined by the claim and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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Claims 2-8 are dependent on rejected claims 1 and are rejected under 35 U.S.C. 112, second paragraph.

Regarding claim 18, the claim comprises both product and process limitations. "The claim does not provide competitors with an accurate determination of the Metes and Bounds of protection involved so that an evaluation of the possibility of infringement may be ascertained with a reasonable degree of certainty." (Lyell 17 USPQ2d 1548, Bd. Pat. App. & Inter. 1990)

Regarding claim 19, see claim 18.

Regarding claim 20, see claim 18.

Regarding claim 21, see claim 18.

Regarding claim 22, see claim 18.

Regarding claim 23, see claim 18.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-4, 9-11, 16, and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Bremer et al.

Regarding claim 1, Performance Customization System And Process For Optimizing XDSL Performance which teach almost all the claimed subject matter “A very high rate digital subscriber line....transmit at higher bit rates” as follows. Bremer et al. disclose that XDSL encompasses the DSL embodiment VDSL, note Col.1. Bremer et al. disclose that loop length effects the DSL performance, note Col.1, lines 13-18. Bremer et al. illustrates the effects of a plurality of modems in a XDSL system, include crosstalk, note Fig. 5. Bremer et al. disclose crosstalk includes FEXT and NEXT types, note Col.2, lines 4-12. Bremer et al. teach a modem that adjust one of two parameters that include the data rate or the transmission power level; the parameter not adjusted is set to a fixed level, note Col.3, lines 26-30. Bremer et al. teach adjusting a first modem pair to effect a second modem pair, note Col.3, lines 33-43. Bremer et al. teach that the second pair can increase its data rate in response to the first pairs power adjustment, note Col. 9, lines 24-26. Bremer et al. teach that the data rate is expressed in bits per second, note Col.4, lines 60-62.

Regarding claim 3, Bremer further teach the claimed subject matter, note Col. 10, lines 1-14.

Regarding claim 4, Bremer further teach the claimed subject matter, note Col. 10, lines 1-14.

Regarding claim 9, see claim 1.

Regarding claim 10, see claim 3.

Regarding claim 11, see claim 4:

Regarding claim 16, see claim 1.

Regarding claim 18, see claim 3.

Regarding claim 19, see claim 4.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer et al.

Bremer et al. disclose substantially the claimed invention as set forth in the discussion above for claim 1, see Fig. 5.

Bremer et al. do not disclose expressly wires having lengths less than 1,000 meters.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to adjust the transmission power of a modem transmitting over a loop length of less than 1,000 meters to improve the data rate of a modem transmitting over a loop length greater than 1,000 meters because Bremer et al. discloses that loop length is a variable that can be used to optimize system performance, note Col.10, lines 15-30.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Bremer et al.'s modem by setting 1,000 meters as a third parameter that controls the level of transmission power, as routine experimentation and optimization in the absence of criticality.

Regarding claim 17, see claim 2.

***Allowable Subject Matter***

Claims 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 12-15 are considered allowable because the present invention comprises a modem having means for producing energy loading of the  $k^{\text{th}}$  sub-carrier of a DMT frame based on the ratio of background noise of the sub-carrier to the FEXT transfer function for the transmission wire, the ratio being multiplied by a constant set to a target bit rate of the DMT frame. The closest art, Bremer et al. (cited above) shows a similar circuit including a FEXT compensation circuit for a VDSL system using DMT modulation. However, Bremer et al fails to teach the means for sub-carrier energy loading. These distinct features have been included in dependent claim 12. Claims 13-15 are dependent on claim 12, and are thereby indicated as allowable.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Munoz whose telephone number is 571-272-3045. The examiner can normally be reached on Monday-Friday 8:30a.m-4:30p.m..

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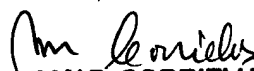
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



GM

October 22, 2004



**JEAN B. CORRIELUS**  
**PRIMARY EXAMINER**

10-28-04